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# A New *Nerine* Species (Amaryllidaceae tribe Amaryllideae) from the Koup Karoo, South Africa

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**ABSTRACT.** *Nerine marincowitzii* is a rare new species from the Koup Karoo, Cape Province, South Africa. Most closely related to the eastern Cape *N. huttoniae* Schonland, *N. marincowitzii* is distinguished by hysteranthous leaves, a sigmoid scape that detaches at ground level when dry, flowers that turn brown at senescence, and a wind-dispersed infructescence. It grows on exposed seasonal washes and flowers at the end of the autumn rainfall season in May.

*Nerine* Herbert (1820), comprising approximately 22 species, is a horticulturally important southern African genus of Amaryllideae (Dahlgren et al., 1985). Of the ten genera in this mainly sub-Saharan African tribe, *Nerine* is most closely allied to *Brunsvigia* Heister (1755), sharing with it apomorphic fasciculate stamens. Traub (1967) has suggested that the two genera should be united. Until strong phylogenetic evidence for this becomes available, however, *Nerine* is retained as a distinct genus. *Nerine* is distinguished from *Brunsvigia* by somewhat smaller flowers, mostly with undulate tepal margins, and distintegrating, globose, membranous capsules with bulging, exposed seeds (Dyer, 1976).

Traub (1967) recognized four sections in *Nerine*. Section *Laticomae* Traub, the most widespread in southern Africa, comprises species with short, stout scapes whose length more or less approximates the width of the flower cluster. According to Obermeyer (1993) the section includes two species, *N. laticoma* (Ker-Gawler) Durand & Schinz and *N. huttoniae* Schonland. The newly described *N. marincowitzii* (Fig. 1) adds a further species to section *Laticomae*.

*Nerine marincowitzii* was collected southeast of Leeu-Gamka in the Koup Karoo, Cape Province, widely disjunct from *N. laticoma* and *N. huttoniae* (Fig. 2). Unlike the highly seasonal summer rainfall region occupied by these two species, the semiarid area occupied by *N. marincowitzii* has an extended rainfall season, and although annual precipitation in the area is low and highly variable it benefits from summer and autumn rainfall (Zucchini & Adamson, 1984).

*Nerine marincowitzii* is distinguished from *N. laticoma* and *N. huttoniae* by hysteranthous, narrow leaves (3–4 mm wide), a scape that is elliptical rather than compressed in transverse section, and by plane-edged tepals. The new species is most similar to *N. huttoniae* and shares with it a many-flowered inflorescence (up to 40 flowers) and rigid, widely radiating pedicels, which bestow a hemispherical shape on the flower head. *Nerine marincowitzii* is unique in the genus in having an apomorphic curved scape and tepals that turn brown and remain outspread with age. These specialized floral changes also occur in the closely allied *Hessea* Herbert and differ from the usual pattern of senescence in Amaryllideae, where the floral pigmentation becomes accentuated and the tepals ultimately collapse (Snijman, 1994).

The wind-dispersed infructescence of *Nerine marincowitzii* is a further specialization not before known in *Nerine*. When dry, the scape detaches at ground level, the curvature of the scape confers a somewhat spherical configuration on the infructescence, and the entire structure tumbles away in the wind. This derived mechanism, known as anemogochory and reported to occur in arid areas worldwide (Van der Pijl, 1982), is also well developed in *Brunsvigia*, *Boophone* Herbert, and *Cybistetes* Milne-Redhead & Schweickerdt in Amaryllideae (Snijman & Williamson, 1994).

***Nerine marincowitzii* Snijman, sp. nov.** TYPE: South Africa. Cape Province: 3222 (Beaufort West) Koup Karoo, farm Vredendal, SE of Leeu-Gamka, in washes along Kleinwatervalrivier (CD), 19 May 1990, Snijman 1245 (holotype, NBG; isotypes, MO, PRE). Figure 1.

Inter species sectionis *Laticomarum* Traub inflorescentia multiflora (floribus usque 40) et pedicellis rigidis radiatim ad *Nerine huttoniam* Schonland accedens sed foliis hysteranthis, scapo sigmoideo, floribus brunneis aetate provecta et infructescentia anemodispersa ab ea recedens.

Plants small, to 20 cm high. *Bulb* solitary, depressed-globose, 45–55 mm across, covered with



Figure 1. *Nerine marincowitzii* Snijman. —1. Inflorescence. —2. Mature leaves. —3. Mature bulb. —4. Flower at anthesis. —5. Anther after dehiscence. —6, 7. Dorsifixed anthers before dehiscence. —8. Mature seeds in disintegrating capsule. Scale bars: 1-3, 8 = 2 cm; 4 = 7 mm; 5-7 = 3 mm. Original painting by E. Ward-Hilhorst from *Vlok s.n.*

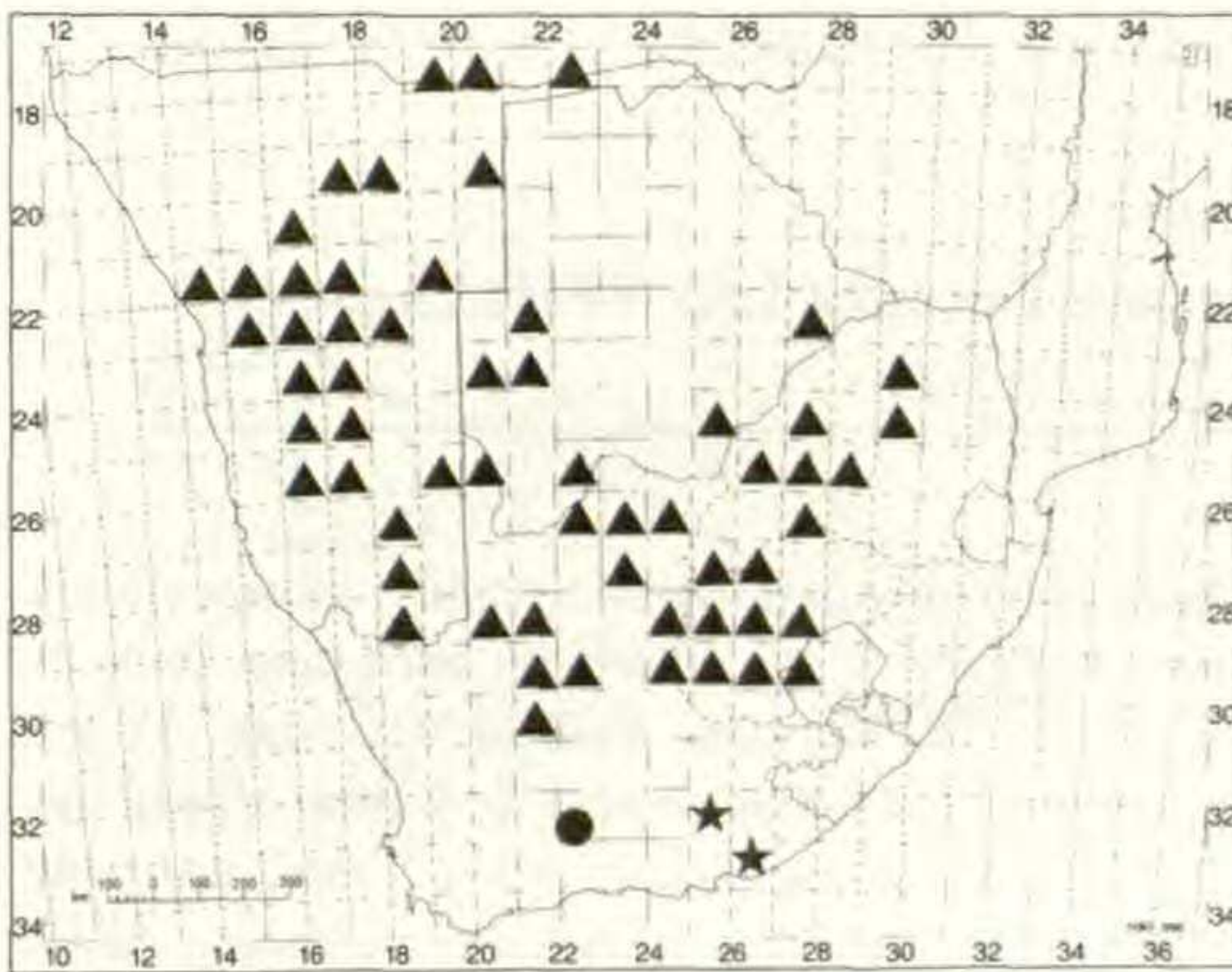


Figure 2. Known distribution of *Nerine* sect. *Laticomae*: *N. laticoma* (▲), *N. huttoniae* (★), *N. marincowitzii* (●).

thinly fibrous tunics, cream-colored and fleshy within, extended into a slender neck to 60 mm long. *Foliage leaves* 5–6, absent at anthesis, distichous, suberect to recurved, narrowly ligulate, tapering gradually distally, canaliculate, somewhat succulent, to 30 cm × 3–4 mm, bright green, glabrous. *In-florescence* 20–40-flowered, hemispherical, compact, 10–16 cm across; scape sigmoid, rigid, elliptical in cross section, 11–14 cm × 2.5–3.5 mm, reddish brown, breaking at ground level when dry; spathe valves 2, narrowly lanceolate, 35–55 × 3–5 mm, papery, wine-red; bracteoles filiform, to 10 mm long; pedicels radiating widely, straight, terete, 40–75 mm long, shiny green, turning straw-colored and rigid in fruit. *Perigone* strongly zygomorphic, pink, initially with whitish throat, aging to brown, scentless; tepals shortly connate proximally, oblong-lanceolate, falcate and upturned at anthesis, 17–22 × 4–6.5 mm, plane; filaments slightly declinate, filiform, 13–17 mm long, expanded and connate proximally into a short tube to 0.25 mm long; anthers dorsifixed, ca. 5 mm long and wine-red before opening; pollen whitish. *Ovary* dark wine-red; ovules 1 or rarely 2 per locule, absent from innermost flowers; style slender, declinate, ca. 20 mm long; nectar present around style base; stigma shortly trilobed. *Capsule* small, papery, loculicidally dehiscent, rapidly outgrown by seeds. *Seeds* ellipsoidal, succulent, 6–7 mm across, wine-red; testa with stomata.

*Phenology*. Flowering is limited to approximately three weeks in May depending on the advent of rain in autumn (probably until the end of April). The

leaves appear in spring when growth is rapid and die back during a dry spell in summer.

*Distribution and habitat*. *Nerine marincowitzii* is known from a single population about 40 kilometers southeast of Leeu-Gamka, near the Klein-watervalrivier, a tributary of the Gamka River. The population, comprising approximately 400 plants, is confined to sparsely vegetated, seasonal washes with a north aspect, where the bulbs are lodged in light clay soil, covered with sharp blue-gray slate chips.

*Etymology*. The specific epithet honors C. P. Marincowitz of the farm Kleinsleutelfontein, Koup Karoo, whose original knowledge and appreciation of this remarkable species led to its identification as new.

*Paratype*. SOUTH AFRICA. **Cape**: 3222 (Beaufort West) Koup Karoo, farm Vredendal, SE of Leeu-Gamka (CD), 10 May 1992, *Vlok s.n.* (NBG).

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